

# NCEH/ATSDR News Clips for Tuesday, August 11, 2015

The News Clips are for internal use only and may not be shared outside the agency, or posted on Web sites, without permission of the news companies from which they were taken.

To view recently distributed ATSDR news releases, please visit the news release archives at <http://www.atsdr.cdc.gov/news/index.asp>. NCEH news releases are available through the NCEH Press Room: <http://www.cdc.gov/nceh/pressroom/pressroom.htm>.

The 'News Clips' presented here are intended to provide staff of the NCEH/ATSDR with noteworthy media coverage related to NCEH/ATSDR's work. The articles selected may include mention of NCEH or ATSDR, staff quotes, or topics that are of scientific or environmental interest. The content is taken directly from online news media sources and is presented as published. The clips do not necessarily reflect the views of management or staff at NCEH/ATSDR and may contain inaccuracies.

## Summary

---

### 1. EPA faces criticism, praise at Silverton meeting ATSDR Named **Durango Herald, The -- 8/10/2015 Colorado**

Residents gather to hear latest about Gold King Mine blowout ...McKean said Agency for Toxic Substances and Disease Registry with the Centers for Disease Control and Prevention determined that no one who had contact with the plume was at risk of illness, though, she said, at the time of the event, the water in Cement Creek was so acidic, anyone who had contact with it might have felt stung.

### 2. Gold King Mine Release Update-August 10 ATSDR Named **EPA News release -- 8/10/2015**

EPA Region 8 has deployed a large response team to Durango and Silverton, Colorado and to several locations in New Mexico, Utah and the Navajo Reservation to coordinate with affected states, tribes and communities on various response activities and to address impacts associated with the Gold King mine wastewater release.

### 3. Massive Toxic Algae Blooms May Prove a Sign of Climate Change to Come **Scientific American -- 8/11/2015 New York, NY**

“The fact that we’re seeing multiple toxins at the same time, we’re seeing high levels of domoic acid, and we’re seeing a coastwide bloom—those are indications that this is unprecedented,” she said.

**4. Stem cells help researchers determine toxicity of pollution**  
**UPI.com -- 8/10/2015 Washington, DC**

The effects of BPA on mouse stem cells could be detected and measured in lab tests by researchers.

**5. Colorado River Spill: Early Tests Show Little Threat to Fish, Wildlife**  
**NBC News -- 8/11/2015**

Preliminary tests on the once-toxically orange Animas River in Colorado indicate little danger to fish or other wildlife, authorities said Monday, five days after a spill sent contaminated water seeping into the river.

**6. How the EPA managed to spill 3 million gallons of mining waste into a Colorado river**  
**Vox Media -- 8/10/2015 Washington, DC**

This June, the Environmental Protection Agency began work to clean up the long-abandoned Red and Bonita mine in Silverton, Colorado — a mine that had been leaking toxic metals into the Animas River for years. ...Then everything went horribly, horribly wrong.

**7. 9th Circuit orders EPA to act on neurotoxin ban**  
**Reuters -- 8/11/2015 New York, NY**

Blasting the Environmental Protection Agency for "egregious" delay in the face of an acknowledged threat to human health, a U.S. appeals court has given the agency an Oct. 31 deadline to issue a full and final response to environmentalists' 2007 petition to take the neurotoxin chlorpyrifos off the market.

**8. Navajo President: EPA Says Spill Cleanup Could Take Decades**  
**ABC News -- 8/11/2015 New York City, NY**

Townpeople affected by the millions of gallons of waste spilled from an abandoned gold mine and now flowing through their communities demanded clarity Tuesday about any long-term threats to their water supply.

**9. Officials deny dirty water made rowers ill in Rio**  
**Reuters -- 8/11/2015 New York, NY**

The Associated Press reported that 13 members of the 40-member U.S. team fell ill after the

world junior championships, a test event for next year's Olympics in Brazil. ...U.S. officials confirmed to Reuters that 15 members took ill but said that was not abnormal in international events and it was too early to blame dirty water.

**10. Officials in towns downstream from toxic Colorado mine spill contaminated with arsenic and lead demand answers about possible long-term threats**

**Daily Mail -- 8/11/2015 London, UK**

The Navajo Nation, which covers parts of New Mexico, Utah and Arizona, were frustrated during a special meeting Monday and echoed the sentiment of New Mexico and Utah officials that the federal government needs to be held accountable.

**11. 80 million plastic balls to prevent Los Angeles reservoirs from becoming carcinogenic**  
**BoingBoing.com -- 8/11/2015 Cyberspace**

...spheres are designed to block sunlight from turning bromide and chlorine in the water into bromate, a suspected carcinogen.

**12. Navajo Nation Mourning, Pleading for Help After Toxic Mine Spill Contaminates Rivers**

**ABC News -- 8/11/2015 New York City, NY**

Gina McCarthy said at a news conference today that the agency's slow response was out of caution, Navajo Nation President Russell Begaye said the slow response is frustrating the Navajo people, who are "weeping every day" and in "dire need of clean water," not only for drinking, but also to sustain their organic farms and ranches.

**13. New Disease in Tadpoles May Threaten Frogs Worldwide**  
**Discovery News -- 8/11/2015**

A new, highly infectious disease that may represent a global threat to frogs has shown up in tests of tadpoles in six countries, across three continents, in both tropical and temperate environments.

**14. Mass extinction survival is more than just a numbers game**  
**ScienceDaily -- 8/11/2015 Rockville, MD**

Widespread species are at just as high risk of being wiped out as rare ones after global mass extinction events, ...There have been five mass extinction events in the Earth's history, including climate change caused by volcanoes and an asteroid hit that wiped out the dinosaurs.

**15. Seagrass thrives surprisingly well in toxic sediments**

**Terra Daily -- 8/5/2015 Gerringong, NSW, Australia**

are surprisingly good at detoxifying themselves when growing in toxic seabed. But if seagrasses are stressed by their environment, they lose the ability and die. All over the world seagrasses are increasingly stressed and one factor contributing to this can be lack of detoxification.

**16. China desalinating massive amounts of water**

**Space Daily -- 8/10/2015 Gerringong, NSW, Australia**

According to its report on seawater use in 2014, the desalination plants are mainly located in costal cities and islands in severe shortage of fresh water, in nine coastal provincial-level regions.

**17. Fukushima governor seeks safety first**

**NHK News -- 8/11/2015 Tokyo, Japan**

...said the government's policy should reflect the lessons learned from the accident at the Daiichi plant in Fukushima. ...(a local woman)said she wants the government to think more about protecting lives than profits, by looking at issues from the people's perspective.

**18. How Jon Stewart made people laugh while teaching them about climate change**

**E&E Publishing, LLC -- 8/11/2015 Washington, D.C.**

A bowl full of ice cubes, talking almonds, and many, many puns: These were some of Jon Stewart's weapons in his war against climate change denialism. His quips made people laugh, but they also got them thinking.

**19. New Mexico Governor Declares Emergency Over Toxic Waste Spill**

**Daily Times -- 8/11/2015 Farmington, NM**

...I am heartbroken by this environmental catastrophe," ... "As I've said before, I am very concerned by EPA's lack of communication and inability to provide accurate information. One day, the spill is 1 million gallons. The next, it's 3 million. New Mexicans deserve answers we can rely on."

**20. The Resurrection of America's Slums**

**Atlantic, The -- 8/9/2015 Washington, DC**

After falling in the 1990s, the number of poor people living in high-poverty areas has been growing fast.

**21. A Salad Industry Solution to E. Coli Made Things Worse for People and Bees**  
**TakePart -- 8/10/2015 Beverly Hills, California**

Researchers find that a recommendation to raze wildlands to stop outbreaks of the pathogen had the opposite effect.

**22. How governments experiment on people**  
**University Of Kent -- 7/9/2015 UK**

In 1963 the UK's Porton Down military science centre carried out tests to release zinc cadmium sulphide in the atmosphere over Norwich. ...It was one of many examples of secret experiments conducted in the name of military research during the 1950s and '60s, now chronicled comprehensively for the first time in a new book by University historian Professor Ulf Schmidt.

**23. U.K. conducted chemical weapons experiments on "unconsenting participants" (1963)**  
**Homeland Security News Wire -- 8/10/2015 Locust Valley, NY**

...release zinc cadmium sulphide in the atmosphere over Norwich. It was one of many examples of secret experiments conducted in the name of military research during the 1950s and 1960s... ... "Britain was turned into a large-scale open-air laboratory; her people into an army of unconsenting participants," the author writes.

---

[Top](#)

**1. EPA faces criticism, praise at Silverton meeting ATSDR Named**  
**Durango Herald, The -- 8/10/2015 Colorado**

EPA faces criticism, praise at Silverton meeting ATSDR Named  
Residents gather to hear latest about Gold King Mine blowout  
Chase Olivarius-Mcallister Herald staff writer, August 10

SILVERTON – On Monday night at a packed meeting of the Silverton Town Trustee Board, more than 40 Silverton residents gathered to talk with the EPA's Martin Hestmark and toxicologist Deborah McKean.

They fielded questions in the aftermath of the Gold King Mine blowout on Wednesday that sent millions of gallons of metal pollution down to Durango, into New Mexico and on to Lake Powell.

There was good news. Hestmark told the crowd that the Animas River was returning to "pre-event conditions," and the EPA was considering how and when to reopen parts of the river, and

the most urgent safety questions now related to sediment in the river. He said Silverton would be the first community to reopen its river, and the EPA had moved its command center to Durango, stationing 30 employees there as well as a few dozen contractors.

McKean said Agency for Toxic Substances and Disease Registry with the Centers for Disease Control and Prevention determined that no one who had contact with the plume was at risk of illness, though, she said, at the time of the event, the water in Cement Creek was so acidic, anyone who had contact with it might have felt stung.

Though at no point in the subdued meeting did Silverton residents bring up the word “Superfund,” there was some recrimination toward the EPA.

San Juan County Sheriff Bruce Conrad said after an EPA research team triggered the blowout, “this town was not informed whatsoever that there was a wall of water coming our way,” he said, demanding a fuller emergency response plan. “You guys are moving materials around, poking new holes. I want to see how you’re going to ensure that our community is safe,” he said.

Hestmark said one reason for the two-hour delay in notification was that engineers working in Gold King had no cellphone service. He said the EPA had asked Verizon to install a cell tower there, and Verizon had agreed so that communications can be immediate and safe going forward. McKean said another reason was that the Gold King Mine spillage had washed out part of the road.

Deanne Gallegos, director of Silverton Area Chamber of Commerce, said she was fielding questions from tourists considering canceling trips though Silverton’s drinking water is safe.

Mostly residents, elected officials and EPA representatives affirmed that their relationship would have to be even stronger going forward.

Hestmark said the EPA was still committed to working with Silverton on all projects relating to its historic mining district.

Town Manager Bill Gardener began the meeting saying they were lucky that worse hadn’t happened, and Silverton should be grateful that there was no loss of life when Gold King blew out. Melody Skinner said she was grateful to the EPA for all the work the agency has done in Silverton over the years. Steve Fearn, a co-coordinator of the Animas River Stakeholders Group, praised the EPA as a partner over the years.

For decades, Silverton has been a bastion of anti-Superfund sentiment, spurning the Environmental Protection Agency’s repeated attempts to list its draining mines under the federal cleanup program.

Even in the last five years, as scientists warned the metal pollution gushing out of Gold King and Red & Bonita mines was doing increasing violence to the river’s ecosystem, the town rejected EPA intervention for fear that a Superfund listing would besmirch its reputation and deter mining companies from setting up shop.

After the meeting, Gardener said he didn't think antipathy to Superfund in Silverton was necessarily softening, though, he said, with the governor visiting the region on Tuesday, the Superfund question may already be out of Silverton's hands.

But, he said, the town understands that the contaminants draining out of mines near Silverton and into the Animas River could no longer be treated like a family problem.

"I think everyone heard that loud and clear. This is a multicounty, multistate problem affecting two Indian nations. Clearly, the problem is larger than Silverton and San Juan County. This is a great example of a strong community response to it," he said.

[back](#) / [top](#)

## **2. Gold King Mine Release Update-August 10 ATSDR Named EPA News release -- 8/10/2015**

Gold King Mine Release Update-August 10 ATSDR Named  
EPA Press Release Date: 08/10/2015

### **BACKGROUND**

On August 5, while investigating the Gold King Mine in Colorado, an EPA cleanup team triggered a large release of mine wastewater into Cement Creek. EPA is working closely with responders and local and state officials to monitor water contaminated by the release. The release's path flows through three of EPA's regions (Region 8 (Colorado/Utah & Southern Ute Tribe); Region 6 (New Mexico), and Region 9 (Navajo Nation). EPA has activated its Emergency Operations System to ensure coordination among its regions, laboratories and national program offices in Washington, D.C. EPA is closely coordinating with officials in Colorado, New Mexico, Utah, Southern Ute Tribe and Navajo Nation.

For the latest information and photos visit: <http://www2.epa.gov/region8/gold-king-mine-release-emergency-response>

### **August 10 Update**

EPA Region 8 has deployed a large response team to Durango and Silverton, Colorado and to several locations in New Mexico, Utah and the Navajo Reservation to coordinate with affected states, tribes and communities on various response activities and to address impacts associated with the Gold King mine wastewater release.

EPA's primary objectives include working with federal, state, tribal and local authorities to make sure that people continue to have access to safe drinking water, ensure appropriate precautions are in place for recreational use and contact with river water, evaluate impacts to aquatic life and fish populations, and stop the flow of contaminated water into the watershed at the Gold King Mine site.

Aerial and ground reconnaissance indicates that the plume associated with the Gold King Mine release has dissipated downstream and there is no leading edge of contamination visible in downstream sections of the San Juan River or Lake Powell.

EPA has also taken steps to capture and treat the discharge at the Gold King mine, addressing the risk of additional downstream impacts. We have constructed four ponds at the mine site and which are treating water by lowering acidity levels and removing dissolved metals. This system is discharging treated water to Cement Creek at levels cleaner (higher pH and lower levels of metals) than pre-event, background conditions in the creek. Over the next several days, EPA will make upgrades to the system to ensure its continued operation.

EPA is collecting and assessing water quality from the Animas and San Juan Rivers daily. Over the next several days, we will be jointly evaluating data and information with partners to determine when access to the Animas River will be restored for activities and uses such as rafting, fishing, irrigation, and drinking water. EPA, tribal, state and local officials are coordinating these decisions based on sampling data, risk screening levels, and other related factors. We do not anticipate any reopening decisions until at least August 17. The timing of these decisions could vary among local, state and tribal governments based on local conditions and by uses. Until notified otherwise, people should continue to abide by existing closures.

The assessment of impacts to wildlife and fish populations is ongoing. To date we have seen no indication of widespread fish mortality in the Animas or San Juan. Fish cages placed directly in the Animas River by the State of Colorado Division of Parks and Wildlife for two days indicate one mortality out of 108 fish tested. The State will be evaluating those and other ecological impacts with partners as we move forward. EPA is also working with the New Mexico Department of Game Fish and the U.S. Fish and Wildlife Service to investigate reports of impacts to wildlife.

EPA has established a response center in Durango, Colorado and has deployed ten On Scene Coordinators in Silverton, Durango and Farmington, New Mexico. Water quality experts and several technicians and contractors will respond to the discharge as it reaches communities in New Mexico. Two Public Information Officers (PIOs) are also on site in Durango at the Joint Information Center (JIC). Two Community Involvement Coordinators (CICs) were deployed to Farmington yesterday and met with local Navajo Chapter officials and hosted public meetings. The CICs will also partner with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters. EPA is using several contracting mechanisms to provide support for the response, which includes water quality sampling, drinking water and agricultural water distribution as well as construction and maintenance of the water treatment ponds.

In New Mexico, EPA has a team of two federal on-scene coordinators, two water quality experts and ten technicians and contractors responding to the spill as it reaches communities in the state. Additional personnel are arriving in Farmington and will total 26 employees and contractors by the end of the day. Staffing is expected to continue to grow to support outreach and door-to-door canvassing. EPA mobile command center has arrived in Farmington and will be fully operational



later today. EPA is also co-locating personnel with NMED in Santa Fe to enhance planning and communication between the agencies.

EPA is continuing to collect water quality samples from nine locations in the river near intakes for Aztec, Farmington, the Lower Valley Water Users Association, the Morning Star Water Supply System and the North Star Water User Association. Each of these locations will continue to be monitored as the spill makes its way past these areas. EPA has two dedicated water quality experts available in New Mexico to assist the five drinking water systems.

Working with San Juan County, NM officials, EPA is providing alternative water supply for livestock in New Mexico.

EPA and New Mexico Environment Department are providing free water quality testing for domestic drinking water wells along the river. Teams of qualified technicians are going door-to-door to collect samples for laboratory analysis.

At 7 pm on Sunday, Aug 9, New Mexico Environment Secretary notified EPA that the New Mexico Department of Game and Fish needed help responding to reports of wildlife that may have been impacted by the release. EPA immediately connected NM Fish & Game with the US Fish & Wildlife Service (USFWS). NM Fish & Game is sending one biologist and two game wardens to assess the situation today and will follow up with USFWS. The USFWS has requested EPA contract with a wildlife rehabilitator to assist with cleaning any animals. USFWS will provide capture and oversight of the operations for the state.

On Saturday (Aug. 8) the President of the Navajo Nation declared a State of Emergency for the San Juan River valley. On Sunday, President Begaye and his staff toured the Gold King Mine Site. R9 public information officer Rusty Harris-Bishop escorted the President on the tour. The President and his staff then attended the community meeting in Durango.

Navajo officials have reacted quickly, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service announcement regarding water from potentially impacted sources.

EPA Region 9 held a conference call Sunday with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River - prior to the spill impact. Region 9 has provided 6 START contractors to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA. This joint EPA/NNEPA river sampling program has commenced focusing on the San Juan between Shiprock/Hogback, NM area and Mexican Hat, UT and will continue for the foreseeable future.

A Region 9 OSC reported to Farmington on Monday to assist. NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. NNEPA and USEPA drinking water experts agreed to inventory and assess water sources including private wells and

intakes.

Region 9 will be providing assistance to Navajo NTUA (utilities) to deliver water to the areas impacted by the Gold King Mine Spill - starting with the Montezuma Creek area. NTUA is sourcing the water from their Sweetwater wells and filling up the service tanks in the affected areas. The ERRS contractor will be providing assistance in the transportation of these waters.

Two EPA Community Involvement Coordinators (CICs) arrived in Farmington Sunday. The CICs will partner with NNEPA and NN Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters. The CICs have begun working with local Navajo Chapter officials and will participate in public meetings at Aneth and Oljato on 8/10.

### Claims Process

EPA is committed to taking responsibility for the discharge and impacts to affected communities. Detailed instructions and links to electronic forms was provided in the August 9, 2015, update.

Beginning on Tuesday, August 11, 2015, claimants may submit signed electronic versions of Standard Form 95 to EPA for the Gold King Mine Release via e-mail at [R8\\_GKM\\_Claims@epa.gov](mailto:R8_GKM_Claims@epa.gov).

Although EPA's regulations state that the EPA has six months to resolve a claim, the Agency will make every effort to respond to Gold King Mine release claims as soon as possible. Claims must be presented to EPA within two years after the claim accrues.

### Public Health Update

The downward trend in water quality concentrations for metals continues for the sites sampled. Cement Creek 14th Street Bridge, only had one sampling event, so a trend could not be developed. The Animas River is an open water source and not considered potable until it has been properly treated.

Washing with soap and water after contact with the river water is a sound public health practice to minimize exposure to the metals, and also any bacteria that maybe present in the untreated river water. Anyone who feels illness as a result of exposure to metals or pathogenic organisms in the river water should contact their local health care provider.

The Agency for Toxic Substances and Disease Registry (ATSDR) recommends that additional monitoring should be conducted until the river returns to pre-release levels. If local health care providers have questions they can contact the ATSDR Regional Office at 303-312-7013. ATSDR's Regional Office can arrange a consultation between the health care provider and ATSDR physician.

Additional information about exposure with metals at <http://www.atsdr.cdc.gov/substances/index.asp>

[back](#) / [top](#)

### **3. Massive Toxic Algae Blooms May Prove a Sign of Climate Change to Come Scientific American -- 8/11/2015 New York, NY**

Massive Toxic Algae Blooms May Prove a Sign of Climate Change to Come  
The blooms off the U.S. West Coast may become more frequent  
By Brittany Patterson and ClimateWire | August 11, 2015

The water began turning a barely perceptible brownish-green in early May, a sign that algae were present and growing in the waters of Monterey Bay. By the end of month, Raphael Kudela, a professor of ocean sciences at the University of California, Santa Cruz, and his team, who run a regional algae monitoring project, were measuring some of the highest levels of the neurotoxin domoic acid ever observed in the region.

Although domoic acid, produced by marine diatoms of the genus *Pseudo-nitzschia*, is a naturally occurring toxin, during a toxic algal bloom, it accumulates at dangerous levels in shellfish and small fish like sardines and anchovies, which are then eaten by larger marine creatures and humans. Contaminated seafood can cause nausea and vomiting in people. At high levels, the toxin can cause brain damage, memory loss and even death.

Today, the algae bloom observed in Monterey Bay waters has morphed into what some researchers suspect could be the largest ever recorded, stretching from central California all the way up to Alaska. Currently, the bloom is estimated at 40 miles wide and goes 650 feet deep into the Pacific Ocean.

“It’s a pretty massive bloom,” said Kudela, who runs the regional monitoring project with funding from the National Oceanic and Atmospheric Administration’s Ecology and Oceanography of Harmful Algal Blooms program.

“This event may be related to the unusually warm water conditions we’ve been having, and this year that warm water has spread all along the West Coast, from Washington to southern California,” he said in a June blog post on the university’s news site.

Algae blooms—which can occur in fresh and ocean waters and typically consist of a buildup of microscopic phytoplankton species of algae—are normal occurrences. However, increasingly, scientists have observed an uptick in harmful algal blooms, which produce natural toxins such as domoic acid and can lead to shellfish poisonings and large marine species mortality events.

A view of the future?

“Whether this bloom is providing a window of things to come for the future, and a world that we can envision under climate change, I think that’s a distinct possibility,” Vera Trainer, a research scientist with the Northwest Fisheries Science Center in Seattle told Capital Public Radio last week.

In mid-June, a team of NOAA biologists began monitoring the massive algal bloom in conjunction with normal surveying work the researchers carry out to assess West Coast sardine and hake populations from Mexico to Vancouver Island.

Over the course of four trips, researchers on the Bell M. Shimada, a NOAA research vessel, will collect water and algae samples, measure water temperatures and test small fish that feed on plankton. Typically, toxic algae blooms disappear in a matter of weeks, but Trainer said this one may not recede until this fall, when the ocean begins moving again. Part of what this bloom is thriving on are unusually still, warm Pacific waters.

“The fact that we’re seeing multiple toxins at the same time, we’re seeing high levels of domoic acid, and we’re seeing a coastwide bloom—those are indications that this is unprecedented,” she said.

“The blob”—a patch of unseasonably warm water that formed in the northeastern Pacific Ocean late last year—is likely also contributing to the algae bloom, researchers think.

#### Financial implications for fisheries

Along the West Coast, officials have reduced or halted the amount of both recreational and commercial shellfish harvesting that can be done because of the algae bloom, which has resulted in millions of dollars in lost revenue. Across the country, NOAA estimates harmful algal blooms amount to about \$82 million in economic losses to the seafood, restaurant and tourism industries annually.

Last month, the California Department of Public Health updated its health advisory warning consumers not to eat recreationally harvested mussels and clams, commercially or recreationally caught anchovies and sardines, or commercially or recreationally caught crabs taken from Monterey, Santa Cruz and Santa Barbara counties due to measured “dangerous levels” of domoic acid.

In June, a large Dungeness crab fishery in Washington was shuttered, the first time a crab fishery in Washington has been closed because of domoic acid since 2003. Last month, NOAA gave the state \$88,000 in grant money to study the bloom.

Domoic acid outbreaks aren’t unusual in the fall, particularly in razor clams. In the late 1990s and early 2000s, state officials found evidence of the toxin, said Jerry Borchert, a biotoxins specialist for the Washington State Department of Health’s shellfish program.

What is new, he said, is the appearance of high levels of domoic acid in the spring, which is affecting the \$84 million crab industry in the state. “This is one of the more intense blooms,” Borchert added. “This is a major economic pain for our industry out here.”

Along all coastal beaches in Washington, officials have prohibited harvesting of razor clams due to high levels of toxins. In the Puget Sound, paralytic shellfish toxins (PSTs) are also causing restrictions for shellfish harvests, he said. PSTs and domoic acid are rarely found in shellfish at the same time, but they have been found together this year.

“Our closures for that [PST] occurred at the beginning of April,” he said, noting that usually, those types of restrictions wouldn’t begin until June. “That’s likely due to elevated water temperatures.” With climate change, water temperatures are predicted to increase, he added.

“That is something we’re thinking about,” he said. “What happens if these happen earlier, last for longer and happen in places that haven’t had them before?”

[back](#) / [top](#)

#### **4. Stem cells help researchers determine toxicity of pollution**

**UPI.com -- 8/10/2015 Washington, DC**

Stem cells help researchers determine toxicity of pollution

The effects of BPA on mouse stem cells could be detected and measured in lab tests by researchers.

Stephen Feller BEIJING, Aug. 10 (UPI)

While using stem cells to investigate the effects of Bisphenol A, or BPA, on gene expression researchers believe they've found a new way to effectively test the effects of pollutants on human cells.

Traditionally, animal testing has been used for the wide array of potentially toxic pollutants, however it can be costly and time consuming. Testing cells in the lab, however, is far more cost- and effort-efficient, according to researchers from State Key Laboratory of Environmental Chemistry and Ecotoxicology, Research Center for Eco-Environmental Sciences China, Chinese Academy of Sciences, and the University of California at San Diego.

"Contrary to traditional in vitro assays and animal tests, embryonic stem cells have a huge benefit because they offer the advantage to grow indefinitely in dishes yet possess the ability to differentiate to mimic embryonic development, and virtually into any kind of cells of an adult organism," said Francesco Faiola, a professor at the State Key Laboratory of Environmental Chemistry and Ecotoxicology in China, in a press release. "For instance, they can differentiate in dishes as three dimensional aggregates called embryoid bodies resembling the early stages of embryonic development. Therefore, they can be utilized in developmental toxicity assays, without the need of animal experiments."

Researchers treated embryonic mouse stem cell samples with BPA, which is known to cause heart disease, diabetes, and developmental abnormalities in humans. Using biochemical and cell-based assays, they detected and measured specification of primary germ layers, such as endoderm and ectoderm, and the establishment of neural progenitor cells -- all of which indicate that BPA may alter embryonic development.

"Our stem cell toxicology system proved to be very sensitive and reflective of the physiological toxic effects of BPA," Faiola added. "What's even more valuable is the fact that this system can

be applied to assess numerous other pollutants for their toxicity or lethality without the expenses of time-consuming animal models."

The study is published in [Journal of Environmental Sciences](#).

[back](#) / [top](#)

## **5. Colorado River Spill: Early Tests Show Little Threat to Fish, Wildlife NBC News -- 8/11/2015**

Colorado River Spill: Early Tests Show Little Threat to Fish, Wildlife  
by M. Alex Johnson NBC News

Preliminary tests on the once-toxically orange Animas River in Colorado indicate little danger to fish or other wildlife, authorities said Monday, five days after a spill sent contaminated water seeping into the river.

Gov. John Hickenlooper declared a state of emergency after the Environmental Protection Agency said Sunday that 3 million gallons of wastewater had spilled, three times as much as earlier estimates. The declaration will allow Hickenlooper to spend half a million dollars from the state's disaster fund on the incident.

The river flowed bright orange in the days after a cleanup crew supervised by the U.S. Environmental Protection Agency accidentally breached a debris dam that had formed inside the Gold King Mine on Wednesday, sending a yellow-orange sludge leaking into the Animas River. Water collected downstream showed higher-than-normal levels of arsenic, lead and other metals.

By Monday, cleanup efforts had left many parts of the river clearer, with a greenish hue.

Local authorities said drinking water was safe because they'd shut off intake valves from the Animas, and Monday, the state Parks and Wildlife Department said results of five days of tests found "no evidence" of adverse effects on fish and wildlife along the river corridor.

The parks agency said it embedded trout fingerlings in cages along sections of the river on Thursday so it could monitor the water's impact. Monday, all but one of the 116 fingerlings were still alive, and no dead fish had been spotted elsewhere along the river, it said.

"A visit this afternoon found all lively little fish," the La Plata County government said in announcing the state results, adding: "Biologists have also walked and floated parts of the river looking for evidence of dead fish. No dead fish were found and there is no evidence of scavenging by other animals."

The EPA said Monday it was listing the spill as a top priority under the Superfund program to allow for a more extensive cleanup effort.

The discolored water has already reached New Mexico. New Mexico Gov. Susana Martinez also declared a state of emergency Monday, saying she plans "to hold EPA accountable for this."

The next likely destination for the contaminated water is Utah, where state environmental quality officials said they expect to have test results from a stretch of the San Juan River by Tuesday.

"We're kind of in a wait-and-see mode right now," Donna Spangler, a spokeswoman for the state Department of Environmental Quality, told NBC station KSL of Salt Lake City.

Shaun McGrath, director of the EPA's Region 8, told NBC station KOB of Albuquerque that the agency would conduct a separate independent investigation to see what happened.

"We'll look back and we'll be taking steps in the future to ensure that we avoid these kinds of events," he said.

[back](#) / [top](#)

## **6. How the EPA managed to spill 3 million gallons of mining waste into a Colorado river Vox Media -- 8/10/2015 Washington, DC**

How the EPA managed to spill 3 million gallons of mining waste into a Colorado river  
Brad Plumer August 10, 2015

This June, the Environmental Protection Agency began work to clean up the long-abandoned Red and Bonita mine in Silverton, Colorado — a mine that had been leaking toxic metals into the Animas River for years.

Then everything went horribly, horribly wrong.

On August 5, EPA contractors were assessing leaks from the nearby Gold King mine, abandoned since 1923, when they inadvertently shook loose a debris dam that had been holding back a massive amount of water laced with arsenic, lead, and other toxins.

All that contaminated water gushed out, unstoppably, coursing down the mountains and turning the Animas River a sickening shade of yellow.

At first, the EPA said that about 1 million gallons of wastewater had been released. Then, on an August 9 press call, officials said they'd taken fresh measurements and actually 3 million gallons had spilled out — about five Olympic-size swimming pools' worth.

Officials have warned people in the region to avoid contact with the river as the contaminated water pulses through. The EPA is also warning people with wells in nearby floodplains to have their water tested before drinking or bathing. Both the nearby city of Durango and La Plata County in Colorado have declared states of emergencies, as has the Navajo Nation Commission on Emergency Management.

This whole fiasco raises a couple of key questions: Why was the EPA messing around with abandoned mines in this area? And how did the agency manage to trigger such a massive spill? To understand this story, we have to walk back through the legacy of mining in the West, which is still creating environmental problems to this day.

Colorado has hundreds of old mines still leaking toxins

In the 1870s, miners first came to the Silverton region to seek out gold, silver, and other valuable metals — as they did throughout the West. But as Stephanie Ogburn at KUNC and Jonathan Thompson at High Country News explain, that mining boom left a serious mess behind.

There were two major environmental problems associated with mining. First, up until the 1930s or so, miners often just dumped their tailings — waste material that frequently contained toxic heavy metals — into nearby streams and rivers. Around Silverton, heavy metals accumulated in the riverbeds of the Upper Animas River, and their effects lingered for decades. For many years, fish disappeared from these waters.

Second, as miners dug and blasted shafts, they'd typically encounter groundwater. As that water mixed with air and sulfides, it would react to form sulfuric acid. That acidic wash, in turn, dissolved and picked up various heavy metals in the earth, including zinc, cadmium, arsenic, lead, and copper. This toxic stew is known as "acid mine drainage," and it's still a problem to this day, flowing out of mines and into nearby streams.

The last mine near Silverton closed in 1991. But there are still more than 400 abandoned mines in the region, and many continue to fill up with toxin-laced water from rain and snowmelt that then drains out into rivers and streams. And cleaning up these old mines has been a gruesome challenge for decades.

Colorado has struggled to clean up these old mines — and EPA recently stepped in

That brings us to the particular Red and Bonita and Gold King mines that the EPA was working on. These, too, have a tangled history.

In 1991, Sunnyside Gold Corp. closed its last big mine in the region, American Tunnel. After long negotiations with the state, Sunnyside began cleanup efforts and eventually plugged American Tunnel in three places to prevent further toxins from leaking out.

Unfortunately, the water in the mines then backed up and found an outlet elsewhere. In 2006, acid drainage began leaking out of the nearby Red and Bonita mines, which had long been abandoned. The company that had taken ownership of these mines in the meantime, Gold King, soon ran into financial difficulties and could no longer treat the water that was pouring into the Upper Animas River. After a brief period when fish had returned, the Animas was poisoned yet again.

Now enter the EPA. Ever since the 1980s, the agency has wanted to declare parts of the Silverton region a Superfund site, which would trigger federal funds for intensive cleanup



efforts. But local residents have long resisted this move, out of concern that the bad publicity would drive away tourists.

So instead, the EPA has been taking a more piecemeal approach — working with the state and the Animas River Stakeholder Group to clean up mines in the region bit by bit. In this particular case, that meant removing waste from both the Red and Bonita and nearby Gold King mines, diverting water that was entering those mines, and eventually plugging their openings with concrete bulkheads. The cost of this project? Some \$1.5 million.

It's worth noting that even this cleanup measure was always considered highly uncertain. EPA workers didn't know if the acid mine discharge would eventually back out and flow somewhere else. "This, in a way, is as much as experiment as the American Tunnel," Steve Fearn, co-coordinator of the Animas River Stakeholders Group, told the Durango Herald in June.

The cleanup efforts went horribly awry in August

The EPA began cleanup work on the Red and Bonita mine in late June 2015. On August 4, workers were clearing out the partially collapsed Gold King mine when they breached a debris dam that had been holding back toxic water, filled with contaminants. That water flowed out, and the Animas River was suddenly flooded yet again by a gusher of heavy metals.

Some notes here: First, the river was hardly pristine before this incident, and it's unclear how much additional damage this blowout has actually caused. Testing by the EPA has revealed that the heavy metal contaminants became more diluted by the time the water reached the town of Durango, and early tests downstream with fish cages have revealed that the water isn't as toxic as initially feared. Still, it's a worrisome situation, and the agency is scrambling to monitor things closely.

Meanwhile, this isn't even the first disastrous blowout from an old mine. Jonathan Thompson offers some further context: "In June of 1975, a huge tailings pile on the banks of the Animas River northeast of Silverton was breached, dumping tens of thousands of gallons of water, along with 50,000 tons of heavy-metal-loaded tailings into the Animas. For 100 miles downstream, the river 'looked like aluminum paint,' according to a Durango Herald reporter at the time; fish placed in a cage in the water in Durango all died within 24 hours."

Still, what's eye-catching here is that this time the EPA is at fault — not a mining company. Even though the agency was trying to clean up a toxic mess that has been simmering for decades, even though efforts to stem the flow of polluted mining water have often gone awry because it's an inherently difficult task, there's an undeniable irony in this whole debacle.

"It's hard being on the other side of this, in terms of being the one who caused this incident," David Ostrander, the EPA's head of emergency management, told a crowd in Durango, according to the Guardian. "We usually respond to emergencies, we don't cause them," he said.

The agency is currently facing criticism for failing to notify other agencies quickly enough after the spill occurred — including the state of New Mexico, where the polluted water is heading.

Indeed, if a company had acted in a similar fashion, the EPA might have potentially levied fines or other penalties.

In the meantime, the polluted water is coursing down the river, eventually joining up with other waterways and making its way into New Mexico, with the long-term effects still unknown.

Further reading:

-- Note that Silverton isn't the only region in the West with a legacy of mining pollution. Nicholas Riccardi reports for the AP that there are between 40,000 to 55,000 abandoned mines from California to Idaho, and states have struggled to clean them up for decades. Also: "The federal government says 40 percent of the headwaters of Western waterways have been contaminated from mine runoff."

-- The Denver Post has been delivering frequent updates on the Animas situation.

-- I mentioned them above, but this great KUNC piece by Stephanie Ogburn on the EPA's cleanup efforts in Silverton is definitely worth your time. So is this excellent piece by Jonathan Thompson of High Country News.

-- This 2014 piece by Mary Shinn of the Durango Herald has some great context on efforts to clean up the Red and Bonita mine.

[back](#) / [top](#)

## **7. 9th Circuit orders EPA to act on neurotoxin ban** **Reuters -- 8/11/2015 New York, NY**

9th Circuit orders EPA to act on neurotoxin ban  
Barbara Grzincic Aug 11

Blasting the Environmental Protection Agency for "egregious" delay in the face of an acknowledged threat to human health, a U.S. appeals court has given the agency an Oct. 31 deadline to issue a full and final response to environmentalists' 2007 petition to take the neurotoxin chlorpyrifos off the market.

Monday's ruling from the 9th U.S. Circuit Court of Appeals was welcome news to Patti Goldman of Seattle-based Earthjustice, which is representing the Pesticide Action Network North America and the Natural Resources Defense Council in the mandamus action, which was filed last year to force the EPA to respond to the 2007 administrative petition.

[back](#) / [top](#)

**8. Navajo President: EPA Says Spill Cleanup Could Take Decades**  
**ABC News -- 8/11/2015 New York City, NY**

Navajo President: EPA Says Spill Cleanup Could Take Decades  
ALBUQUERQUE, N.M. — Aug 11, SUSAN MONTOYA BRYAN and ELLEN  
KNICKMEYER Associated Press

Townspeople affected by the millions of gallons of waste spilled from an abandoned gold mine and now flowing through their communities demanded clarity Tuesday about any long-term threats to their water supply.

Colorado and New Mexico made disaster declarations for stretches of the Animas and San Juan rivers and the Navajo Nation declared an emergency as the waste spread more than 100 miles downstream, where it will reach Lake Powell in Utah sometime this week.

EPA workers accidentally unleashed an estimated 3 million gallons of orange-yellow waste, including high concentrations of arsenic, lead and other potentially toxic heavy metals, while inspecting the long-abandoned Gold King mine near Silverton, Colorado, on Aug. 5.

EPA Administrator Gina McCarthy, who plans to tour the damage personally, said Tuesday in Washington, D.C., that she takes full responsibility for the spill, which she said "pains me to no end." She said the agency is working around the clock to assess the environmental impact.

EPA officials said the shockingly bright plume has already dissipated and that the leading edge of the contamination cannot be seen in the downstream stretches of the San Juan River or Lake Powell.

So far, the Bureau of Reclamation has no plans to slow flows on the lower Colorado River, below Lake Powell, where the water is a vital resource for parts of California, Arizona, Nevada, New Mexico and Utah.

Chris Watt, a bureau spokesman in Salt Lake City, said his agency is testing the water at the request of the EPA, and can't discuss the impact without learning the results.

None of this has eased concerns or quelled anger among people in the arid Southwest who depend on this water for their survival.

The Navajos, whose sovereign nation covers parts of New Mexico, Utah and Arizona, shut down water intake systems and stopped diverting water from the San Juan River. Navajo Nation President Russell Begaye told The Associated Press that regional EPA officials told him the cleanup could take decades.

"Decades. That is totally, completely unsettling," Begaye said. "This is a huge issue. This river, the San Juan, is our lifeline, not only in a spiritual sense but also it's an economic base that

sustains the people that live along the river. You're taking away the livelihood and maybe taking it away from them for decades. ... That is just, to me, a disaster of a huge proportion. And we have yet to hear from the Obama administration."

Heavy metals from Gold King and other defunct mines in Colorado have been leaching out and killing fish and other species for decades as rain and snowmelt spills from mining operations left abandoned and exposed. The EPA has considered making part of the Animas River in Colorado a Superfund site for a quarter-century.

It would have provided more resources for a cleanup, but some in Colorado opposed Superfund status, fearing the stigma and the federal strings attached, so the EPA agreed to allow local officials to lead cleanup efforts instead.

Now the Attorneys General of Utah, New Mexico and Colorado are coordinating a response to ensure "whatever remediation is necessary occurs as quickly as possible," Utah Attorney General Sean Reyes said in a statement.

Utah Gov. Gary Herbert expressed disappointment with the EPA's initial handling of the spill, but said the state has no plans for legal action. New Mexico Gov. Susana Martinez, however, said she would not take anything off the table and that the EPA should be held to the same standards as industry.

"Right now we have people preparing for a lawsuit if that is what we need to do," she said Tuesday.

Colorado Gov. John Hickenlooper, himself a former geologist, visited a contaminated stretch of river Tuesday and said he hopes a "silver lining" to the disaster will be a more aggressive state and federal effort to deal with mining's "legacy of pollution" across the West.

The EPA has said the current flows too fast for the contaminants to pose an immediate health threat, and that the heavy metals will likely be diluted over time so that they don't pose a longer-term threat, either.

Still, as a precautionary measure, the agency said stretches of the rivers would be closed for drinking water, recreation and other uses at least through Aug. 17.

Dissolved iron is what turned the waste plume an alarming orange-yellow, a color familiar to old-time miners who call it "yellow boy."

"The water appears worse aesthetically than it actually is, in terms of health," said Ron Cohen, a civil and environmental engineering professor at the Colorado School of Mines.

Tests show some of the metals have settled to the bottom and would dissolve only if conditions became acidic, which Cohen said isn't likely. He advises leaving the metals where they settle, and counting on next spring's mountain snowmelt to dilute them more and flush them downstream.

No die-off of wildlife along the river has been detected. Federal officials say all but one of a test batch of fingerling trout deliberately exposed to the water survived over the weekend.

As a precaution, state and federal officials ordered public water systems to turn off intake valves as the plume passes. Boaters and fishing groups have been told to avoid affected stretches of the Animas and San Juan rivers, which are usually crowded with rafters and anglers in a normal summer.

Farmers also have been forced to stop irrigating, endangering their crops, and recreational businesses report losing thousands of dollars.

"We had lots of trips booked. Right now we're just canceling by the day," said Drew Beezley, co-owner of 4 Corners Whitewater in Durango, Colorado. He said his dozen employees are out of work, and he's lost about \$10,000 in business since the spill.

"We don't really know what the future holds yet," said Beezley. "We don't know if the rest of this season is just scrapped."

[back](#) / [top](#)

## **9. Officials deny dirty water made rowers ill in Rio** **Reuters -- 8/11/2015 New York, NY**

Officials deny dirty water made rowers ill in Rio  
RIO DE JANEIRO (Reuters)

There is no clear evidence that rowers who fell ill after competing in Rio de Janeiro at the weekend were infected by abnormal levels of viruses or bacteria in the water, U.S. and international sailing officials said on Monday.

The Associated Press reported that 13 members of the 40-member U.S. team fell ill after the world junior championships, a test event for next year's Olympics in Brazil.

U.S. officials confirmed to Reuters that 15 members took ill but said that was not abnormal in international events and it was too early to blame dirty water.

"It would be easy but irresponsible for us to immediately assume that the rowing course is the main or sole point of exposure that caused the illnesses," CEO of USRowing Glenn Merry told Reuters.

Merry said U.S. rowers often take ill abroad and said the fact that coaches also got sick in Rio was an indication water might not be the problem.

The only athlete who fell into the lagoon and consumed significant amounts of water was not one of those who was ill, Merry added.

Event organizers also cast doubt on the reports, saying they treated 14 people for diarrhea – eight Americans, and three each from Australia and Britain -- and that all were medicated and fit enough to compete.

A spokesperson for Rio2016, who asked not to be named, said "everything suggests" the diarrhea was caused by familiar travel woes rather than dirty water.

International sailing officials also said they had no evidence the sailors got ill from waters.

The championships were held at the same lagoon that will be used during South America's first ever Olympic games next year.

However, water quality there, as well as in the seas where the sailing, triathlon and open water swimming events will be held, has been sharply criticized and authorities have admitted it will not meet its own targets for reducing the amount of sewage in the water.

Unsafe levels of viruses and bacteria were recorded in the water, according to an independent study commissioned by the AP and released last month.

[back](#) / [top](#)

## **10. Officials in towns downstream from toxic Colorado mine spill contaminated with arsenic and lead demand answers about possible long-term threats** **Daily Mail -- 8/11/2015 London, UK**

Officials in towns downstream from toxic Colorado mine spill contaminated with arsenic and lead demand answers about possible long-term threats

EPA workers unleashed toxic stream of arsenic and lead last week  
Colorado towns have shut off the water supply for fear of contamination  
Environmental officials said it will take until August 17 to give the all-clear  
Navajo Nation and other local officials calling for federal government help

Associated Press, 11 August 2015

Officials in towns downstream from where three million gallons of mine waste spilled into a southwest Colorado river are demanding answers about possible long-term threats to the water supply.

Disaster zones have been declared across stretches of the Animas and San Juan rivers after EPA workers accidentally unleashed the toxic stream last Wednesday.

High concentrations of arsenic, lead and other heavy metals have been detected in the waste stream - prompting the Navajo Nation to shut down water intake systems for fear of contamination.

Now, almost a week later, members of the tribal council are calling on the federal government to take action as officials said it will take until August 17 to give the all-clear.

EPA officials insist the spill at the abandoned Gold King mine near Silverton, Colorado, shows little evidence of contamination in downstream sections of the San Juan River and Lake Powell.

But that has done little to ease concerns or quell the anger caused by the spill.

The Navajo Nation, which covers parts of New Mexico, Utah and Arizona, were frustrated during a special meeting Monday and echoed the sentiment of New Mexico and Utah officials that the federal government needs to be held accountable.

Utah Attorney General Sean Reyes discussed the legal implications with his New Mexico counterpart, Hector Balderas, and planned to hold a similar call with Colorado Attorney General Cynthia Coffman, Reyes' office said Monday.

'We hope to work with our sister states to ensure our citizens are protected and whatever remediation is necessary occurs as quickly as possible,' Reyes said in a statement. 'We will continue to evaluate the legal issues as we receive data and monitor the effects on our communities.'

Meanwhile, a spokesman for Utah Gov. Gary Herbert said the governor is disappointed in the EPA's initial handling of the spill but the state has no plans for legal action.

The EPA has said the contaminants were rolling too fast to be an immediate health threat. Experts and federal environmental officials say they expect the river system to dilute the heavy metals before they pose a longer-term threat.

The EPA said stretches of the rivers would be closed for drinking water, recreation and other uses at least through Aug. 17.

Dissolved iron in the waste turned the long plume an alarming orange-yellow — a look familiar to old-time miners who call it 'yellow boy' — so 'the water appears worse aesthetically than it actually is, in terms of health,' said Ron Cohen, a civil and environmental engineering professor at the Colorado School of Mines.

Tests show some of the metals have settled to the bottom and would dissolve only if conditions became acidic, which isn't likely, Cohen said.

The best course for the EPA would be to leave the metals where they settle, he said, noting that next spring's mountain snowmelt would help dilute the contaminants further and flush them downstream.

No die-off of wildlife along the river has yet been detected. Federal officials say all but one of a test batch of fingerling trout deliberately exposed to the water survived over the weekend.

As a precaution, state and federal officials along the river system have ordered public water systems to turn off intake valves as the plume passes. Boaters and fishing groups have been told to avoid affected stretches of the Animas and San Juan rivers, which are crowded with rafters and anglers in a normal summer.

Recreational businesses along the rivers said they were losing thousands of dollars.

'We had lots of trips booked. Right now we're just canceling by the day,' said Drew Beezley, co-owner of 4 Corners Whitewater in Durango, Colorado.

He said his company has had to cancel 20 rafting trips so far, and his dozen employees are out of work until the river is deemed safe to enter again.

'We don't really know what the future holds yet,' said Beezley, who estimates that he's lost about \$10,000 worth of business since the spill last week. 'We don't know if the rest of this season is just scrapped.'

The EPA has considered adding a section of the Animas River in Colorado as a Superfund cleanup site at least since the 1990s because heavy metals from Gold King and other defunct mines were killing fish and other species.

The designation would have brought federal clean-up funds, but some in Colorado opposed the move in part because of the stigma attached. The EPA agreed to allow local officials to lead clean-up efforts instead.

[back / top](#)

## **11. 80 million plastic balls to prevent Los Angeles reservoirs from becoming carcinogenic BoingBoing.com -- 8/11/2015 Cyberspace**

80 million plastic balls to prevent Los Angeles reservoirs from becoming carcinogenic  
By Mark Frauenfelder, Aug 11

The Los Angeles Department of Water and Power is buying 80 million 4-inch black polyethylene balls to cover the surfaces of three Los Angeles reservoirs that serve 4 million residents. At a cost of 33 cents each, the hollow spheres are designed to block sunlight from turning bromide and chlorine in the water into bromate, a suspected carcinogen.

[https://www.youtube.com/watch?feature=player\\_embedded&v=lqhF2JpZBVs](https://www.youtube.com/watch?feature=player_embedded&v=lqhF2JpZBVs)



[back](#) / [top](#)

## **12. Navajo Nation Mourning, Pleading for Help After Toxic Mine Spill Contaminates Rivers**

**ABC News -- 8/11/2015 New York City, NY**

Navajo Nation Mourning, Pleading for Help After Toxic Mine Spill Contaminates Rivers  
Aug 11, 2015 AVIANNE TAN via Good Morning America

The Navajo Nation is mourning and pleading for help as clean storage water is depleting, after toxic spill from a mine has contaminated water flowing down the Animas River in Colorado into the San Juan River through Utah and New Mexico.

The spill happened Friday when a team of Environmental Protection Agency workers accidentally released 3 million gallons of wastewater containing heavy metals, including lead and arsenic, from the Gold King Mine in Silverton, Colorado, the agency said.

Though EPA administrator Gina McCarthy said at a news conference today that the agency's slow response was out of caution, Navajo Nation President Russell Begaye said the slow response is frustrating the Navajo people, who are "weeping every day" and in "dire need of clean water," not only for drinking, but also to sustain their organic farms and ranches.

"Our soul is hurting," Begaye told ABC News today. "I meet people daily that weep when they see me, asking me, 'How do I know the water will be safe?' The Animas River and the San Juan rivers are our lifelines. Water is sacred to us. The spirit of our people is being impacted."

He explained that "basic drinking water" is becoming scarce as clean storage water is depleting more rapidly than expected.

"Bottled water is becoming scarce, and my people want to know what we can drink after the clean supply runs out," Begaye said. "We're hauling water from wells outside the disaster area and using our own Navajo Nation funds to run these trucks back and forth. We desperately need help from outside to get good quality, safe drinking water."

Additionally, farmers and ranchers will be losing thousands of dollars in revenue if they can't find a way to irrigate their crops and provide drinking water to their cattle and livestock, Begaye said.

"We are in the middle of farming season, which is only four to five months of the whole year, and farmers are asking me to help them save their crops, many of which are not fully ripe yet," he said. "The revenue from these crops is what our farmers need to live off for the rest of the year, so without irrigation water, they are doomed."

"Our ranchers, which have cattle, sheep, horses, goats and different livestock also graze and

drink along the river," Begaye added. "But right now, all the cattle are penned up, and these ranchers have to haul their water in, which they're not prepared to do."

Begaye explained that the Navajo are well known for their organic crops and meat, but now with the river contamination, farmers and ranchers are scared they can't guarantee their consumers that their produce and products are going to be 100 percent organic.

Navajo tourism is also being affected because business owners of resorts and boating companies by the rivers now cannot fully operate until the water is cleared, the Navajo president added.

Begaye said the EPA sent two personnel -- one who could help with any health issues and another who could help with water testing -- but he said the Navajo Nation has yet to receive help from the EPA to get drinking water and more specific answers about what's exactly in the orange-yellow waters now flowing in their sacred rivers.

Administrator McCarthy said today she understands the "frustration" but that the EPA has "researchers and scientists working around the clock" and is hustling to provide "alternative water supplies."

She added there have not been any reported cases of "anyone's health being compromised" and that the "EPA is taking full responsibility to ensure that the spill is cleaned up."

McCarthy also mentioned that she expected there to be lawsuits against the EPA, and Begaye said in a news release Sunday that he planned to take legal action against the agency.

"To recover from this from this will take a while," Begaye told ABC News. "For our river to recover, it may take decades. But our people have faced disaster before, and as a nation, we'll work together and do the best we can. As a nation of prayer, we are asking for prayers for our people right now, and I'd also just like to thank anyone who has reached out to us to volunteer help."

[back](#) / [top](#)

### **13. New Disease in Tadpoles May Threaten Frogs Worldwide Discovery News -- 8/11/2015**

New Disease in Tadpoles May Threaten Frogs Worldwide  
Aug 11, Discovery News

A new, highly infectious disease that may represent a global threat to frogs has shown up in tests of tadpoles in six countries, across three continents, in both tropical and temperate environments.

The tests were performed by scientists from the University of Exeter and the Natural History Museum in London and have just been described in a paper in the journal Proceedings of the National Academy of Sciences.

The scientists have identified the cause of the infection as a marine parasite distantly related to oyster parasites.

"Global frog populations are suffering serious declines and infectious disease has been shown to be a significant factor," said University of Exeter Professor Thomas Richards, who co-authored the study. "Our work has revealed a previously unidentified microbial group that infects tadpole livers in frog populations across the globe."

"We now need to figure out if this novel microbe causes significant disease and could be contributing to the frog population declines," added Richards.

[back](#) / [top](#)

#### **14. Mass extinction survival is more than just a numbers game** **ScienceDaily -- 8/11/2015 Rockville, MD**

Mass extinction survival is more than just a numbers game  
August 11, 2015 University of Leeds

Widespread species are at just as high risk of being wiped out as rare ones after global mass extinction events, says new research by UK scientists.

There have been five mass extinction events in the Earth's history, including climate change caused by volcanoes and an asteroid hit that wiped out the dinosaurs.

In general, geographically widespread animals are less likely to become extinct than animals with smaller geographic ranges, offering insurance against regional environmental catastrophes.

However, a study published in Nature Communications has found this insurance is rendered useless during global mass extinction events, and that widely distributed animals are just as likely to suffer extinction as those that are less widespread.

The research by Dr Alex Dunhill, from the School of Earth and Environment at the University of Leeds, and Professor Matthew Wills from the University of Bath's Milner Centre for Evolution, explored the fossil record of terrestrial (land-living) vertebrates (including dinosaurs) from the Triassic and Jurassic periods (252-145 million years ago).

They found that although large geographic ranges do offer insurance against extinction, this insurance disappeared across a mass extinction event that occurred around 200 million years ago (at the Triassic-Jurassic boundary) associated with massive volcanic eruptions and rapid climate change which caused the demise of around 80 per cent of species on the planet.

During this catastrophic event many groups of crocodile ancestors became extinct, which paved the way for the dinosaurs to rise to dominance in the subsequent Jurassic Period.

Dunhill and Wills mapped how the geographical distribution of groups of organisms changed through the Triassic-Jurassic periods. These distribution maps were then compared with changes in biodiversity to reveal the relationship between geographic range and extinction risk.

This is the first study to analyse the relationship between geographic range and extinction in the terrestrial fossil record and the results are similar to those obtained from the marine invertebrate fossil record.

Dr Dunhill, who started the work at Bath and is now at the University of Leeds, said: "The fact that the insurance against extinction given by a wide geographic distribution disappears at a known mass extinction event is an important result.

"Many groups of crocodile-like animals become extinct after the mass extinction event at the end of the Triassic era, despite being really diverse and widespread beforehand.

"In contrast, the dinosaurs which were comparatively rare and not as widespread pass through the extinction event and go on to dominate terrestrial ecosystems for the next 150 million years."

Co-author Matthew Wills from the University of Bath's Milner Centre for Evolution commented: "Although we tend to think of mass extinctions as entirely destructive events, they often shake up the status quo, and allow groups that were previously side-lined to become dominant.

"Something similar happened much later with the extinction of the dinosaurs making way for mammals and ultimately ourselves.

"However, our study shows that the 'rules' of survival at times of mass extinctions are very different from those at 'normal' times: nothing is ever really safe!"

Dr Dunhill added: "These results shed light on the likely outcome of the current biodiversity crisis caused by human activity. It appears a human-driven sixth mass extinction will affect all organisms, not just currently endangered and geographically restricted species."

Story Source:

The above post is reprinted from materials provided by University of Leeds.

[back / top](#)

## **15. Seagrass thrives surprisingly well in toxic sediments** **Terra Daily -- 8/5/2015 Gerringong, NSW, Australia**

Seagrass thrives surprisingly well in toxic sediments  
by Staff Writers Odense, Denmark (SPX) Aug 05, 2015

Toxic is bad. Or is it? New studies of seagrasses reveal that they are surprisingly good at

detoxifying themselves when growing in toxic seabed. But if seagrasses are stressed by their environment, they lose the ability and die. All over the world seagrasses are increasingly stressed and one factor contributing to this can be lack of detoxification.

Seagrass meadows grow along most of the world's coasts where they provide important habitats for a wide variety of life forms. However in many places seagrass meadows have been lost or seriously diminished and in several places, researchers and authorities work hard to understand what is happening and prevent the seagrasses from disappearing.

Now biologists from SDU add another important piece to the understanding of sea grass life.

It has long been known that the toxin sulphide is part of the threat to seagrasses. Sulphide is a naturally occurring toxin found in the seabed where seagrasses grow. The seabed is characterized by lack of oxygen and a smell of rotten eggs from sulphides.

A widely held theory states that seagrasses cannot tolerate sulphide and that increasing amounts of sulphide due to increased pollution have a negative effect on seagrasses.

Sulfide is absorbed by plant tissue

"But our research shows that seagrasses are actually capable of protecting themselves from sulphide. In fact, seagrasses benefit from sulphide", explains postdoc Harald Hasler-Sheetal who has conducted the research together with Professor Marianne Holmer, both from the Department of Biology, University of Southern Denmark.

The study shows that seagrasses are capable of protecting themselves against approx. two thirds of the sulphide that enters the plant from toxic seabed. The last third is absorbed by the plant's tissue and here enzymes convert the sulphide into beneficial nutrients.

But the discovery that a seagrass can protect itself from sulfide does not mean that all is good.

"Seagrasses cannot tolerate sulphide under all circumstances. If a seagrass is stressed, the plant's capacity to detoxify itself will weaken, and the plant will be less capable of protecting itself from sulphide. It's like when humans are stressed; then we cannot perform optimally. Stressed seagrasses grow slower and may die back - this is what we see in many parts of the world", explains Harald Hasler-Sheetal.

Factors that may stress seagrasses, so it loses its natural ability to detoxify itself of sulphide include:

- + Unclear water: This blocks the sun's light, so seagrasses cannot produce enough oxygen to detoxify the sulphide.
- + Rising temperatures: If the water gets warmer, there is a greater risk of low oxygen in the water, which reduces seagrass' capacity to detoxify sulphide.
- + Discharge of nutrients: When fertilizers are washed from land into shallow coastal areas, many

nutrients will be carried with the water. This stimulates blooms of phytoplankton, leading to shading and consumption of the oxygen in the water reducing the seagrasses capacity to detoxify sulphides.

Seagrass protects itself from sulphide in two ways: First it creates a shield around its roots so that sulphide cannot penetrate into the plant's interior. App. two thirds of the sulphide is being kept out this way.

This shield consists of oxygen. The plant sends oxygen down to the roots and oxygen diffuse out of the roots. This oxygen shield can be maintained in daylight, where the plant produces oxygen via photosynthesis. At night oxygen is diffusing from the water to the roots. Part of the oxygen is also used to oxidize sulphide to sulfur, which the plant deposits as a harmless substance on the inside of air channels.

The last third of the sulphide is allowed to penetrate into the plant. This probably happens mainly at night, where the oxygen shield is smallest. Once inside the plant, enzymes convert the sulphide to useful nutrients for the plant.

If seagrass does not get enough oxygen, it cannot maintain these detoxification mechanisms.

Seagrasses are not seaweeds, but a plant with flowers, leaves and roots just like plants on land. Seagrasses also produces seeds that can be sown in the seabed and grow to new plants. There are approx. 60 seagrass species in the world with eelgrass (*Zostera marina*) in temperate areas as a common species. Seagrasses need light and only grows where at least 10% of the sun's light can reach the plants.

Ref: PLOS ONE: Sulfide Intrusion and Detoxification in the Seagrass *Zostera marina*. Harald Hasler-Sheetal, Marianne Holmer. DOI: 10.1371 / journal.pone.0129136 June 1, 2015.

[back](#) / [top](#)

## **16. China desalinating massive amounts of water Space Daily -- 8/10/2015 Gerringong, NSW, Australia**

China desalinating massive amounts of water  
Staff Writers Beijing (XNA) Aug 10, 2015 Xinhua News

China had built a total of 112 seawater desalination plants by the end of 2014, producing 926,900 tonnes of fresh water per day, the State Oceanic Administration said on Thursday.

According to its report on seawater use in 2014, the desalination plants are mainly located in costal cities and islands in severe shortage of fresh water, in nine coastal provincial-level regions.

In north China, desalted water is mainly used for water-intensive industries including electricity

and steel in Tianjin, Hebei and Shandong, while in south China, desalted water is mainly for civilian needs covering the provinces of Zhejiang, Fujian and Hainan.

Of the finished desalination plants, 63.35 percent are for industrial purposes, and the rest are for household water use, said the report.

In 2014, seawater cooling technology was applied in industries including nuclear, thermal power and petrochemicals, covering China's 11 coastal provincial-level regions.

[back](#) / [top](#)

## **17. Fukushima governor seeks safety first** **NHK News -- 8/11/2015 Tokyo, Japan**

Fukushima governor seeks safety first  
Aug. 11, 2015 -

The governor of Fukushima Prefecture says Japan's nuclear energy policy should place utmost priority on ensuring people's safety and giving them a sense of security.

Masao Uchibori issued a statement in response to the restart on Tuesday of a nuclear plant in southwestern Japan, the first time in nearly 2 years for a nuclear facility in the country to come online. He said the government's policy should reflect the lessons learned from the accident at the Daiichi plant in Fukushima.

He said his prefecture will continue pressing the government and Tokyo Electric Power Company to scrap all nuclear plants in Fukushima. TEPCO is the Daiichi plant's operator.

Uchibori said the prefecture will also do its utmost to realize its basic principle for reconstruction -- fostering a society that does not depend on nuclear power.

Former residents of Namie Town, which was designated a no-entry zone after the nuclear accident, expressed mixed emotions at the news of the restart of the Sendai plant.

An 83-year-old man was against the move, saying the suffering endured by the evacuees in Fukushima can never be understood by others.

A 44-year-old woman said the restart probably can't be avoided. Even so, it gives her complicated feelings. She said she believes the normal order of business is to restart nuclear reactors only after confirming that all safety measures are in place -- such as securing a final disposal site for spent nuclear fuel and designating evacuation routes in case of emergencies.

The woman said she wants the government to think more about protecting lives than profits, by looking at issues from the people's perspective.

[back / top](#)

## **18. How Jon Stewart made people laugh while teaching them about climate change E&E Publishing, LLC -- 8/11/2015 Washington, D.C.**

How Jon Stewart made people laugh while teaching them about climate change  
Camille von Kaenel, E&E reporter, August 11, 2015

A bowl full of ice cubes, talking almonds, and many, many puns: These were some of Jon Stewart's weapons in his war against climate change denialism. His quips made people laugh, but they also got them thinking.

After 16 years on Comedy Central's satirical news program "The Daily Show," which he left Thursday, Stewart will be remembered by loyal viewers for his biting political commentary -- but he also offered refreshingly critical science coverage. That could have shaped how his audience viewed climate change, according to a new study released Friday. The paper joins a growing body of research into "the Stewart/Colbert effect," or the influence of news satire.

Paul Brewer, a communications professor at the University of Delaware, and Jessica McKnight, a doctoral student, [published their most recent paper](#) in Science Communication. They showed two groups of clips of Stewart and Stephen Colbert on "The Colbert Report" talking about a climate study. A third control group saw an unrelated clip.

In the ["Daily Show" clip](#), aired in October 2011, Stewart goes over new research by University of California, Berkeley, physics professor Richard Muller, whose biggest private funders were the oil-rich Koch brothers.

"Whoa, global warming is real. Did not see that coming," Stewart jested. "The Earth is getting warmer. Or, judging by this graphic, getting more embarrassed."

The groups who saw the satirical news clips were slightly more likely to believe in climate change after the experiment, the study found.

"It can make a difference, though not a huge difference," said Brewer, the lead author.

The research had limitations: The 400 or so participants skewed toward college students, for example. Other media coverage of climate change can influence viewers' opinions just as much.

But Stewart didn't cover climate change like other news outlets, Brewer said.

Filling a hole in media coverage

Stewart's show included more science than traditional news. [A review by the Pew Research Center](#) found that "The Daily Show" dedicated 2.6 percent of its "news hole" to science and technology, twice the amount of a traditional news source. Stewart took on the anti-vaccine



movement and stem cells. And he talked about global warming two times more than traditional media.

He explicitly stated climate change was real around 70 percent of the time, according to an analysis by Lauren Feldman, a communications professor at Rutgers University. Some of the jokes by Stewart and Colbert could have undermined their statements, she found, especially in the case of Colbert's heavy irony. But Stewart did bring in a variety of guests to talk about climate change.

"The interviews were really important in broadening the range of analysis, they had such a wide range of interviewees that really highlighted different aspects, like the public health aspects," Feldman said.

In another study, she and her colleagues found that people watching shows like "The Daily Show" were more likely to be paying attention to science and policy topics. That was even more true for people with a lower level of education.

"The barriers for following science are much higher, so when it's packaged in this entertaining format, it's much easier for them to follow along," she said.

Even people who watched Stewart just for laughs, or for the politics, got spooned some hard science along the way.

Take, for example, a social media darling: his skewering of the members of the House Committee on Science, Space and Technology on Sept. 22, 2014. In the segment, he played clips from a hearing on President Obama's plan to slash carbon dioxide emissions.

When Rep. Larry Bucshon (R-Ind.) said he didn't believe scientists because they were being paid to do research, Stewart pointed out that Bucshon's own three main supporters were coal and oil companies Murray Energy Corp., Koch Enterprises Inc. and Peabody Energy Corp.

"If scientists could be bought, these motherf\*\*\*ers would have already made it rain in nerd town," Stewart quipped.

Former Rep. Steve Stockman (R-Texas) then suggested that melting ice does not cause sea-level rise -- just "displacement."

"How far back to the elementary school core curriculum do we have to go to get someone on House Committee on Space, Science and Technology caught up?" exploded Stewart. He brought out a bowl of ice cubes and a glass of water. Dumping the bowl, which represented land ice, into the overflowing glass, he flailed around and yelled, "It's everywhere! It's everywhere!"

The end of an era?

In another segment, called "La la la climate change doesn't exist la la la," he covered his ears and sang to bring attention to the difference between local weather and global climate change.

He then poked fun at Florida officials trying to avoid using the words "climate change" in an attempt to abide by the governor's alleged ban on the words. Stewart suggested several alternatives to "sea-level rise": "moisture inconvenience," "statewide jacuzzification" or "surprise pool party."

"There's something in the accessibility of his jokes and humor that makes it resonate, really," Feldman said. "Stewart was such a straight shooter, just his expression and pauses, everything he did for 16 years on that show, it was so powerful. I do think, with some sort of these science topics, it needs that 'hit yourself on your head, this stuff is so simple, just get it already.'"

Stewart often said he didn't consider what he did journalism, though many audience members ranked him high on their list of favored journalists, according to a Pew Research Center report. Unlike a traditional journalist, he didn't need to go in-depth on the issues he covered or be fair.

"The format [objectivity] takes is the climate change believer said this and the climate change skeptic said that," Brewer said. "That upholds the norm of objectivity but might give a distorted perception of climate change science. But [Stewart and Colbert] don't have the same pressure to be fair and balanced, and they can say this side is right and this side wrong."

Stewart was free to say what he wanted, and he skewered everyone from mainstream media to Donald Trump. But now, he won't be doing it four times a week on "The Daily Show."

"I don't think satirical news can replace traditional journalism, but it's also important to have a critical voice," Feldman said. "We're losing a really important forum for discussion and analysis about lots of concepts of salience, climate change perhaps chief among them."

The researchers said they would direct their attention to John Oliver of "Last Week Tonight"; Stewart's replacement, Trevor Noah; and other comedians to see if they can keep that critical science coverage up.

[back](#) / [top](#)

## **19. New Mexico Governor Declares Emergency Over Toxic Waste Spill Daily Times -- 8/11/2015 Farmington, NM**

New Mexico Governor Declares Emergency Over Toxic Waste Spill  
Tribune News Service August 11, The Daily Times (Farmington, N.M.) By James Fenton

New Mexico Gov. Susana Martinez Monday afternoon declared a state of emergency in San Juan County after EPA workers caused a spill that released 3 million gallons of toxic mine waste into the Animas River.

And Environmental Protection Agency officials announced that public access to the Animas and

San Juan rivers would continue to be closed until at least Aug. 17, during a 30-minute media teleconference Monday afternoon.

The heavy-metal laden water worked its way from a mine above Silverton, Colo., into a tributary that feeds the Animas River and then into the San Juan River where the rivers join in Farmington. As of Monday evening, officials said the plume of contamination was southeast of Montezuma Creek, Utah, and was headed for Lake Powell. EPA officials say the pollutants in the plume include arsenic, lead, copper, aluminum and cadmium, but have not released any detailed information on the spill that started Wednesday morning and has since been contained.

"I had the chance to see the spill with my own eyes. It is absolutely devastating, and I am heartbroken by this environmental catastrophe," Martinez said Monday in a press release. "As I've said before, I am very concerned by EPA's lack of communication and inability to provide accurate information. One day, the spill is 1 million gallons. The next, it's 3 million. New Mexicans deserve answers we can rely on."

The governor's executive order makes available an additional \$750,000 in state funds. That money can be used for water well testing, studies of possible long-term effects of the spill, support for a multi-agency response team formed by Martinez, and other mitigation or response efforts, the release said.

New Mexico Environment Department Secretary Ryan Flynn issued emergency orders allowing for additional hazardous waste funding to support response efforts, according to the release.

On Friday, the New Mexico Environment Department requested and received \$500,000 in state emergency funds to support the response efforts. Martinez also said the multi-agency team will remain in northwest New Mexico for an indefinite period of time as the extent of the damage is evaluated.

Martinez directed administration officials to be prepared to take legal action -- along with others affected by the spill -- against the EPA, the release states.

Shaun McGrath, EPA administrator for Region 8, said that agency officials are increasing their efforts to evaluate and mitigate the toxic plume that has impacted the Animas and San Juan Rivers in coordinated efforts with local, state and tribal officials.

"We do not anticipate any reopening decisions until at least August 17th," McGrath said. "The timing of these decisions could vary among local, state and tribal governments based on local conditions and by uses. And they will also vary by river segment, since the impacts to the river system depend on their distance from the source of the contamination (at the) mine. Until notified otherwise, people should continue to abide by existing closures."

McGrath said that a unified central command center in Durango, Colo., has been established to coordinate efforts from multiple states over the toxic plume.

The evaluation of whether to reopen access to the river for multiple activities and uses --

including rafting, fishing, irrigation and drinking water intake -- continues, he said. Local, state, EPA and tribal officials are coordinating those decisions based on risk-screening levels, sampling data and other related factors, he said.

Ron Curry, EPA administrator for Region 6, said the agency's New Mexico team has grown to 26 people -- two federal on-scene coordinators, two water-quality experts and 10 technicians, plus additional contractors and EPA officials -- on scene in Farmington and Aztec.

An EPA mobile command center in Farmington is located across the street from the police station on Municipal Drive, he said.

Curry said that the EPA is collecting water-quality samples from nine locations on five water systems affected by the spill -- in the cities of Aztec and Farmington, the Lower Valley Water Users Cooperative Association, Morningstar Domestic Water Users Association and North Star Water Users Association.

Jared Blumenfeld, Administrator for EPA's Pacific Southwest Region, which covers the Navajo Nation, said 12 EPA officials are on hand in Farmington, Shiprock and in Window Rock, Ariz.

McGrath said the agency is committed to long-term efforts to monitor and clean up the impacted rivers.

"We are absolutely committed to the longer-term effort," McGrath said. "We are engaged across the agency at EPA to do the sampling that's going to be necessary ... and we'll be committed to work with the partnership we'll need to work with to do both the long-term clean-up and mitigation work."

The EPA set up a website for people impacted by the mine spill to make a claim of personal injury or damage at [epaossc.org](http://epaossc.org).

[back](#) / [top](#)

## **20. The Resurrection of America's Slums** **Atlantic, The -- 8/9/2015 Washington, DC**

The Resurrection of America's Slums

After falling in the 1990s, the number of poor people living in high-poverty areas has been growing fast.

Alana Semuels Aug 9

Half a century after President Lyndon B. Johnson declared a war on poverty, the number of Americans living in slums is rising at an extraordinary pace.

The number of people living in high-poverty areas—defined as census tracts where 40 percent or

more of families have income levels below the federal poverty threshold—nearly doubled between 2000 and 2013, to 13.8 million from 7.2 million, according to a new analysis of census data by Paul Jargowsky, a public-policy professor at Rutgers University-Camden and a fellow at The Century Foundation. That’s the highest number of Americans living in high-poverty neighborhoods ever recorded.

The development is worrying, especially since the number of people living in high-poverty areas fell 25 percent, to 7.2 million from 9.6 million, between 1990 and 2000. Back then, concentrated poverty was declining in part because the economy was booming. The Earned Income Tax Credit boosted the take-home pay for many poor families. (Studies have shown the EITC also creates a feeling of social inclusion and citizenship among low-income earners.) The unemployment rate fell as low as 3.8 percent, and the first minimum wage increases in a decade made it easier for families to get by. Programs to disassemble housing projects in big cities such as Chicago and Detroit eradicated some of the most concentrated poverty in the country, Jargowsky told me.

As newly middle-class minorities moved to inner suburbs, though, the mostly white residents of those suburbs moved further away, buying up the McMansions that were being built at a rapid pace. This acceleration of white flight was especially problematic in Rust Belt towns that didn’t experience the economic boom of the mid-2000s. They were watching manufacturing and jobs move overseas.

#### Population Living in High-Poverty Neighborhoods (in millions)

Source: 1990 and 2000 Census, 2005-2009 and 2009-2013 ACS/The Century Foundation

Cities such as Detroit saw continued white flight as wealthier residents moved to Oakland County and beyond, further and further away from the city’s core. They brought their tax dollars with them, leaving the city with little tax base, a struggling economy, and no resources to spend on services.

Low-income residents who wanted to follow the wealthy to the suburbs would have had a difficult time. Many wealthy suburbs passed zoning ordinances that prohibited the construction of affordable-housing units or the construction of apartment buildings in general. Some mandated that houses all be detached, or are a minimum size, which essentially makes them too expensive for low-income families.

“It’s no longer legal to say, ‘We don’t want African-Americans to live here,’ but you can say, ‘I’m going to make sure no one who makes less than two times the median income lives here,’” Jargowsky told me.

(Though some affordable-housing developers try to build in the suburbs, many more, especially those in the “poverty-housing industry,” advocate for building more developments in high-poverty areas to stimulate economic growth. The Local Initiatives Support Corporation, which has a goal of investing in distressed neighborhoods, for example, has spent \$14.7 billion building affordable housing units since 1980.)

Some of the cities where poverty is the most concentrated are in the Midwest and Northeast, where tens of thousands of people have headed to suburbs, and the region itself is shrinking in population. In Syracuse, New York, for example, 65 percent of the black population lived in high-poverty areas in 2013, up from 43 percent of the black population in 2000, Jargowsky found. In Detroit, 58 percent of the black population lived in areas of concentrated poverty in 2013, up from 17 percent in 2000. And in Milwaukee, 43 percent of the Latino population lived in areas of concentrated poverty in 2013, up from 5 percent in 2000.

The number of high-poverty census tracts is also growing in many of these cities. In Detroit, the number of such tracts tripled to 184, from 51 between 2000 and 2013, as concentrated poverty spread to inner suburbs. In Syracuse, the number of high-poverty census tracts grew to 30 from 12.

Federal dollars have sometimes been used in ways that increase the concentration of poverty. Most affordable housing is built with low-income housing tax credits, which are distributed by the states. States assign the tax credits through a process in which they weigh a number of different factors including the location of proposed developments. Many states have favored projects in low-income areas, a practice that was the recent subject of a Supreme Court case known as *Inclusive Communities*. The *Inclusive Communities Project* argued, in the case, that the way Texas allocated tax credits was discriminatory, since 93 percent of tax credit units in Dallas are located in census tracts that are more than 50 percent minority, and are predominantly poor. The Supreme Court agreed in June, allowing groups to bring lawsuits about such segregation.

Finally, Housing Choice Vouchers, also known as Section 8, are meant to give poor families better options about where they live, but are instead confining the poor to the few neighborhoods where landlords will accept the voucher.

All of these developments have increased the racial concentration of poverty, especially in mid-sized American cities.

“These policies build a durable architecture of segregation that ensures that racial segregation and the concentration of poverty is entrenched for years to come,” Jargowsky writes.

### Highest Black Concentration of Poverty

Sources: 2000 Census, 2005-2009 and 2009-2013 ACS/The Century Foundation

Some recent developments, including the Supreme Court decision and a new HUD rule that requires regions to think more carefully about segregation, are positive signs. But Jargowsky says deeper policy prescriptions are needed to reduce these depressing trends in concentrated poverty. First, he says, federal and state governments must ensure that new suburban developments aren’t built more quickly than the metropolitan region is growing, so that such developments don’t create a population vacuum in cities and inner suburbs. Second, every city and town must ensure that new housing construction reflects the income distribution of the

metropolitan area, he said, so that more housing is available to people of all incomes in different parts of town.

“If we are serious about breaking down spatial inequality,” Jargowsky writes, “We have to overcome our political gridlock and chart a new course toward a more geographically inclusive society.”

That’s important for the future of our cities, but also for our nation, Jargowsky said. His research shows that poor children are more likely to live in high-poverty areas than are poor adults—28 percent of poor black children live in high-poverty areas, for example, compared to 24 percent of poor black adults. Overall, 16.5 percent of poor children live in high-poverty areas, compared to 13.8 percent of poor adults.

A child who grows up in a high-poverty area is likely to be poor when he grows up. Research out this year from Harvard shows that children who moved from poor areas to more affluent areas had higher incomes and better educational achievements than those who stayed in poor areas. Without dramatic changes, today’s children who live in high-poverty areas are going to grow up to be poor, too.

[back](#) / [top](#)

## **21. A Salad Industry Solution to E. Coli Made Things Worse for People and Bees TakePart -- 8/10/2015 Beverly Hills, California**

A Salad Industry Solution to E. Coli Made Things Worse for People and Bees

Researchers find that a recommendation to raze wildlands to stop outbreaks of the pathogen had the opposite effect.

Aug 10 Emily J. Gertz is TakePart's associate editor for environment and wildlife.

A deadly food poisoning outbreak in 2006 was traced to a spinach field in California’s Central Coast. Because wild pigs in the area were carriers of the E. coli strain, growers came under pressure from the salad greens industry to strip bare the wildlands between their fields.

The idea was that destroying these habitats would reduce the number of wild animals entering the fields and potentially contaminating crops with illness-causing pathogens.

But researchers have found compelling evidence that clearing these lands has made the pathogen problem worse. The study, which analyzed industry data dating to the year after the outbreak, undermines the packaged salad industry’s response to the 2006 E. coli outbreak, when it scrambled to reassure consumers that packaged greens were safe to eat.

A team of scientists from the University of California, Berkeley, found that incidence in leafy greens of pathogenic E. coli—the cause of the 2006 outbreak that made hundreds of people ill

and killed three—has increased dramatically, from under 0.1 percent of tested produce in 2007 to 2.5 percent in 2013, according to a study published Monday in Proceedings of the National Academy of Sciences.

The pressure to clear wildlife habitat, however, has led to a 30 percent decrease in the region's remaining meadows and marshes, along with significant amounts of wild grasslands and scrub forest. Those ecosystems are vital for water filtration and retention and support native bees and other pollinators.

Fresh produce, eaten raw, is now the main cause of food-related illnesses in the United States. But the study's findings do not translate directly into an increase of contaminated salad greens on supermarket shelves, said lead author Daniel Karp. That's because packaged salad companies now trace their produce from farm field to point of sale. Contaminated lots are destroyed at the packing facilities before being mixed with other shipments, he said.

To find a relationship between removing vegetation between farm fields and frequency of *E. coli* and salmonella detection, the researchers gained access to food-testing data for 2007 through 2013 from "a large organic leafy greens corporation," said Karp, a postdoctoral research fellow at Berkeley in the NatureNet program, which is funded by The Nature Conservancy. "So we could see what was happening to pathogens over time while all this habitat was being removed."

The researchers also "quantified how much habitat was remaining around over 50 farms in the Central Coast valley growing region and what the prevalence of pathogens was on those farms," Karp said. "We saw no increase in pathogens on the farms that had the most remaining wild habitat, across all years."

Karp believes growers should begin restoring wildlife habitat but that their willingness to do it will depend on the salad industry. "Companies like Fresh Express but also packers, shippers, retailers—at all stages of the supply chain where there is risk of loss of consumer confidence—any of those actors can be putting pressure on the growers" to raze wild vegetation, he said.

"Several studies in the same region show that natural habitat is really important for providing pollinators for the farms, and natural enemies to crop pests, including birds and insects," said coauthor Claire Kremen, a Berkeley ecologist and conservation biologist. "I'd like to see growers become more comfortable again with habitat diversity in the landscape and not worry that it's going to have a negative effect on their farming."

She said the Berkeley team would be working with the University of California Cooperative Extension and other regional agricultural organizations to promote the study's findings among growers.

"There has been this perception that having non-crop habitat near fields was a risk factor," said Sasha Gennet, a senior scientist with The Nature Conservancy in California. "The science shows this conflict isn't there." The group has found that since the 2006 *E. coli* outbreak, pressure on growers to clear lands has reduced wildlife habitat in the Salinas River Valley 10 to 15 percent



overall.

“This region is a global biodiversity hot spot, a place that has Monterey Bay, a very important river,” she said. “So we’re really excited this study is pointing us to a solution.”

[back](#) / [top](#)

## **22. How governments experiment on people** **University Of Kent – 7/9/2015 UK**

How governments experiment on people

In 1963 the UK’s Porton Down military science centre carried out tests to release zinc cadmium sulphide in the atmosphere over Norwich.

Thumbnail By Martin Herrema | 9 July 2015

It was one of many examples of secret experiments conducted in the name of military research during the 1950s and ‘60s, now chronicled comprehensively for the first time in a new book by University historian Professor Ulf Schmidt.

Secret of ScienceThe book, entitled Secret Science (Oxford University Press ), provides the most comprehensive overview to date of state military scientific research on chemical and biological weapons by Britain, the US and Canada since the First World War. It shows that the history of human and animal experimentation should not be seen as a national issue alone but rather in the context of an international network of warfare scientists.

It also highlights how breaches of medical ethics have been more widespread and systemic than previously assumed – and were carried out over a prolonged period of time. This led Professor Schmidt, of the School of History, to challenge the claim that ethics violations on both civilians and soldiers were ‘isolated’ incidents.

Professor Schmidt further considers how the medical ethics of experimentation have evolved – and suggests that further changes could yet see a more ethical approach that would not compromise the state’s ability to test new weapons.

Using examples, such as the death of the Leading Aircraftman Ronald Maddison from nerve gas exposure in 1953 and of the Porton Down chemical warfare veterans, Professor Schmidt exposes the ways in which chemical and biological experiments touched on the lives of thousands of servicemen and civilians.

Press release in full <https://static.kent.ac.uk/media/news/2015/08/SecretScience-Schmidt-Historyv4.pdf>

-----  
Secret Science: A Century of Poison Warfare and Human Experiments Book Announcement  
Ulf Schmidt Oxford University Press <https://global.oup.com/academic/product/secret-science-9780199299799?cc=us&lang=en&#>

## Overview

New comprehensive account of British and North American chemical and biological weapons development over the last century

Employs previously top secret military, scientific, and government archival material

Includes interviews with former servicemen and scientists about highly secret warfare programmes

Provides a significant new interpretation of one of the biggest cover-ups in Britain's Cold War history, the death of a British servicemen from a chemical warfare agent in a non-therapeutic experiment in 1953

Recognises important developments in often contentious medical ethics debates, across national boundaries, and research cultures

## Description

There have long been allegations that many servicemen had been duped into taking part in trials with toxic agents at top-secret Allied research facilities. In Britain, a whole army of over 21,000 soldiers had participated in secret experiments between 1939 and 1989. Some remembered them as innocuous, others as harmful, and in isolated cases deadly. Ulf Schmidt offers a comprehensive history of chemical and biological weapons research by former Allied powers, providing a significant new interpretation of the cover-up of the death of a British serviceman in 1953. Employing new archival material and including many interviews with those involved, he charts the history of this "secret science" from its development during the First World War to the ongoing attempts by the international community to ban these weapons.

## Table of Contents

Prologue: The Girl with a Gas Mask

1. Introduction

2. Justifying Chemical Warfare

3. Research Without Bounds

4. Preparing for Total Warfare

5. Deadly New Gases

6. Flying the Atlantic

7. Ethics Outdoors

8. Twilight Threshold

9. Ethics Within Limits

10. The Politics of Medical Memory

Epilogue: The Truth Lies in Fragmented Tales

[back](#) / [top](#)

**23. U.K. conducted chemical weapons experiments on “unconsenting participants” (1963)**  
**Homeland Security News Wire -- 8/10/2015 Locust Valley, NY**

U.K. conducted chemical weapons experiments on “unconsenting participants” [1963]  
Published 10 August 2015

In 1963 the U.K. Ministry of Defense’s Porton Down military science center carried out the first of a series of tests to release zinc cadmium sulphide in the atmosphere over Norwich. It was one of many examples of secret experiments conducted in the name of military research during the 1950s and 1960s, now chronicled for the first time in a new book. The book provides a comprehensive overview of state military scientific research on chemical and biological weapons by Britain, the United States, and Canada since the First World War. Between 1946 and 1976, “Britain was turned into a large-scale open-air laboratory; her people into an army of unconsenting participants,” the author writes.

In 1963 the U.K. Ministry of Defense’s Porton Down military science center carried out the first of a series of tests to release zinc cadmium sulphide in the atmosphere over Norwich.

It was one of many examples of secret experiments conducted in the name of military research during the 1950s and 1960s, now chronicled for the first time in a new book by University of Kent historian Professor Ulf Schmidt.

The book, entitled Secret Science: A Century of Poison Warfare and Human Experiments (Oxford University Press), provides a comprehensive overview of state military scientific research on chemical and biological weapons by Britain, the United States, and Canada since the First World War. It shows that the history of human and animal experimentation should not be seen as a national issue but rather in the context of an international network of expert scientists.

The University of Kent reports that the book also highlights how breaches of medical ethics have been more widespread and systematic than previously assumed —and were carried out over a prolonged period of time. This led Schmidt to challenge the claim that ethics violations on both civilians and soldiers were “isolated” incidents.

Schmidt further considers how the medical ethics of experimentation have evolved —and suggests that further changes could yet see a more ethical approach that would not compromise the state’s ability to test new weapons.

Using little-publicized examples, such as the Norwich zinc cadmium sulphide experiment, Schmidt details the ways in which chemical and biological experiments touched on the lives of ordinary people as well as military personnel.

Although he acknowledges that Britain’s atmospheric trials may not have posed an immediate health hazard to the public, Schmidt points out that the government was well aware, as the Chief Scientist warned in 1963, that “public ... knowledge of them by unauthorized persons could be politically embarrassing.”

Schmidt highlights the historical context of such experiments. He writes: “As an island nation, Britain was widely believed to be particularly vulnerable to large-scale chemical and biological attacks. During the Cold War, research and development activities reached far beyond the

identification and testing of ever more toxic chemical compounds in the secure confines of Porton's experimental landscape. With an estimated total of over 750 field trials carried out by Porton between 1946 and 1976, Britain was turned into a large-scale open-air laboratory; her people into an army of unconsenting participants."

In the same period as the Norwich tests, many other people — mainly service personnel — volunteered to take part in experiments. Secret Science poses the wider question as to why human beings participate in such experiments. In many cases, Schmidt suggests, the scientist "takes on the role of the seemingly selfless father figure, assuring his subjects that their joint enterprise will ultimately, in some distant future, be of benefit to the greater good; resources and human sacrifice are an apparently inevitable necessity."

Schmidt identifies that in many cases secrecy impacted on medical ethics in relation to issues of informed consent and full disclosure, but he concludes by arguing that secrecy and medical ethics do not have to be mutually exclusive.

Schmidt is Professor of Modern History, director of the Center for the History of Medicine, Ethics and Medical Humanities at the University of Kent, and principal investigator of the Porton Down Project on the history of chemical warfare research during the Cold War.

[back](#) / [top](#)

---